

Finals Task 5: Grading Program using Tkinter

Code:

```
import tkinter as tk
from tkinter import ttk, messagebox

class GradingProgram:
    def __init__(self, root):
        self.root = root
        self.root.title("Grading System")
        self.main_frame = tk.Frame(self.root)
        self.main_frame.pack(padx=10, pady=10)

        self.input_frame = tk.Frame(self.main_frame)
        self.input_frame.pack(fill="x")

        tk.Label(self.input_frame, text="Prelim Grade:").grid(row=0,
column=0, padx=5, pady=5)
        tk.Label(self.input_frame, text="Midterm Grade:").grid(row=1,
column=0, padx=5, pady=5)
        tk.Label(self.input_frame, text="Pre-Finals Grade:").grid(row=2,
column=0, padx=5, pady=5)
        tk.Label(self.input_frame, text="Finals Grade:").grid(row=3,
column=0, padx=5, pady=5)

        self.prelim_entry = tk.Entry(self.input_frame)
        self.prelim_entry.grid(row=0, column=1, padx=5, pady=5)
        self.midterm_entry = tk.Entry(self.input_frame)
        self.midterm_entry.grid(row=1, column=1, padx=5, pady=5)
        self.pre_finals_entry = tk.Entry(self.input_frame)
        self.pre_finals_entry.grid(row=2, column=1, padx=5, pady=5)
        self.final_grade_entry = tk.Entry(self.input_frame)
        self.final_grade_entry.grid(row=3, column=1, padx=5, pady=5)

        self.grade_type_frame = tk.Frame(self.main_frame)
        self.grade_type_frame.pack(fill="x")

        tk.Label(self.grade_type_frame, text="Grade
Type:").pack(side="left", padx=5, pady=5)
        self.grade_type = tk.StringVar()
        self.grade_type.set("Letter Grade")
        self.grade_type_combo = ttk.Combobox(self.grade_type_frame,
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textvariable=self.grade_type, state="readonly")
    self.grade_type_combo['values'] = ('Letter Grade', 'Numeric Grade')
    self.grade_type_combo.pack(side="left", padx=5, pady=5)

    self.button_frame = tk.Frame(self.main_frame)
    self.button_frame.pack(fill="x")

    self.compute_button = tk.Button(self.button_frame, text="Compute",
command=self.compute_grade)
    self.compute_button.pack(side="left", padx=5, pady=5)
    self.reset_button = tk.Button(self.button_frame, text="Reset",
command=self.reset_fields)
    self.reset_button.pack(side="left", padx=5, pady=5)
    self.about_button = tk.Button(self.button_frame, text="About",
command=self.about)
    self.about_button.pack(side="left", padx=5, pady=5)
    self.close_button = tk.Button(self.button_frame, text="Close",
command=self.close_app)
    self.close_button.pack(side="left", padx=5, pady=5)

    self.output_frame = tk.Frame(self.main_frame)
    self.output_frame.pack(fill="both", expand=True)

    self.output_text = tk.Text(self.output_frame, height=10, width=40)
    self.output_text.pack(padx=5, pady=5)
    self.output_text.config(state="disabled")

def compute_grade(self):
    try:
        prelim = float(self.prelim_entry.get())
        midterm = float(self.midterm_entry.get())
        pre_finals = float(self.pre_finals_entry.get())
        final_grade = float(self.final_grade_entry.get())

        gpa = (prelim + midterm + (0.5 * pre_finals) + (0.5 *
final_grade)) / 3

        if self.grade_type.get() == "Letter Grade":
            if gpa >= 96:
                grade = "A+"
            elif gpa >= 93:
                grade = "A"
            elif gpa >= 88:
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        grade = "B"
    elif gpa >= 83:
        grade = "B-"
    elif gpa >= 78:
        grade = "C"
    elif gpa >= 76:
        grade = "D"
    elif gpa >= 75:
        grade = "E"
    else:
        grade = "F"
else:
    if gpa >= 97:
        grade = "1.00"
    elif gpa >= 94:
        grade = "1.25"
    elif gpa >= 90:
        grade = "1.50"
    elif gpa >= 87:
        grade = "1.75"
    elif gpa >= 84:
        grade = "2.00"
    elif gpa >= 81:
        grade = "2.25"
    elif gpa >= 78:
        grade = "2.50"
    elif gpa >= 76:
        grade = "2.75"
    elif gpa >= 75:
        grade = "3.00"
    else:
        grade = "5.00"

self.output_text.config(state="normal")
self.output_text.delete(1.0, "end")
self.output_text.insert("end", "Transaction Summary\n\n")
self.output_text.insert("end", f"Prelim Grade: {prelim:.2f}\n")
self.output_text.insert("end", f"Midterm Grade:
{midterm:.2f}\n")
self.output_text.insert("end", f"Pre Finals:
{pre_finals:.2f}\n")
self.output_text.insert("end", f"Finals: {final_grade:.2f}\n")
self.output_text.insert("end", f"GPA is: {gpa:.2f}\n")
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        self.output_text.insert("end", f"Grade Equivalent: {grade}\n")
    if gpa >= 75:
        self.output_text.insert("end", "Remarks: Passed\n")
    else:
        self.output_text.insert("end", "Remarks: Failed\n")
        self.output_text.config(state="disabled")
except ValueError:
    messagebox.showerror("Error", "Invalid input")

def reset_fields(self):
    self.prelim_entry.delete(0, "end")
    self.midterm_entry.delete(0, "end")
    self.pre_finals_entry.delete(0, "end")
    self.final_grade_entry.delete(0, "end")
    self.output_text.config(state="normal")
    self.output_text.delete(1.0, "end")
    self.output_text.config(state="disabled")
    self.grade_type.set("Letter Grade")

def about(self):
    messagebox.showinfo("About", "Hello I am Daniel Robert T. Buccat")

def close_app(self):
    if messagebox.askyesno("Confirm", "Are you sure you want to
exit?"):
        self.root.destroy()

if __name__ == "__main__":
    root = tk.Tk()
    app = GradingProgram(root)
    root.mainloop()
```

Output:**Letter Grade:**

Grading System

Prelim Grade:

Midterm Grade:

Pre-Finals Grade:

Finals Grade:

Grade Type:

Transaction Summary

Prelim Grade: 78.00
Midterm Grade: 89.00
Pre Finals: 90.00
Finals: 90.00
GPA is: 85.67
Grade Equivalent: B-
Remarks: Passed

Numeric Grade:

Grading System

Prelim Grade:

Midterm Grade:

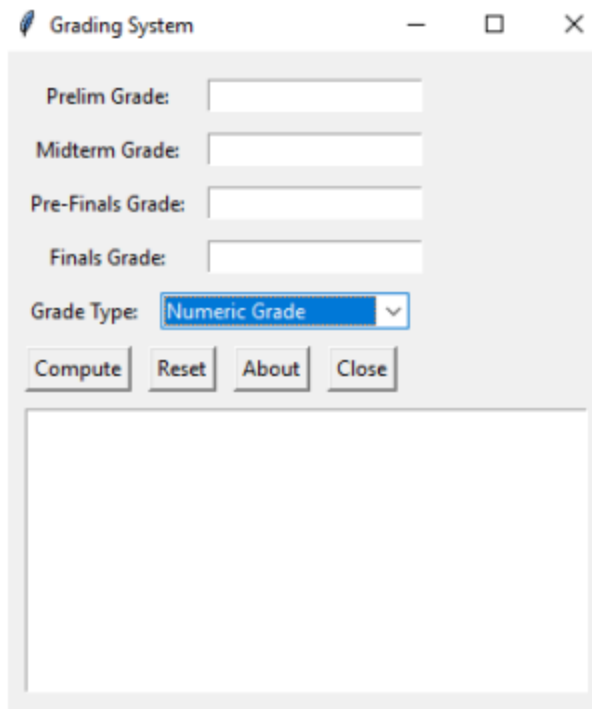
Pre-Finals Grade:

Finals Grade:

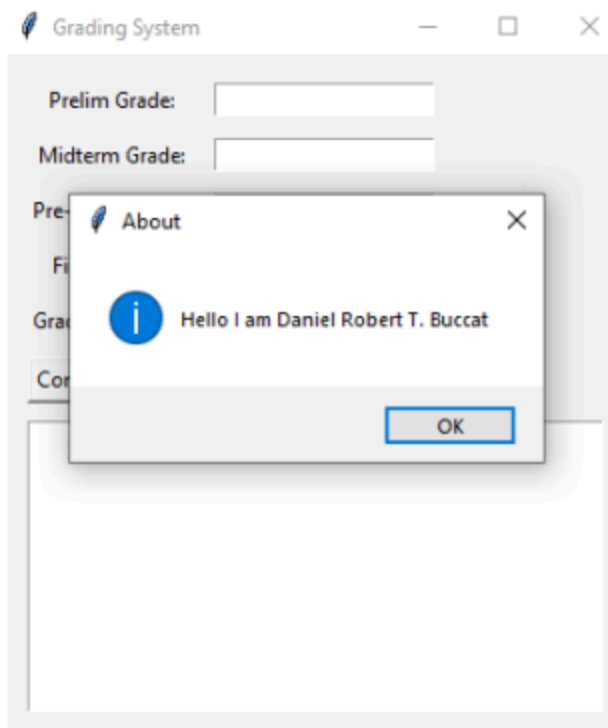
Grade Type:

Transaction Summary

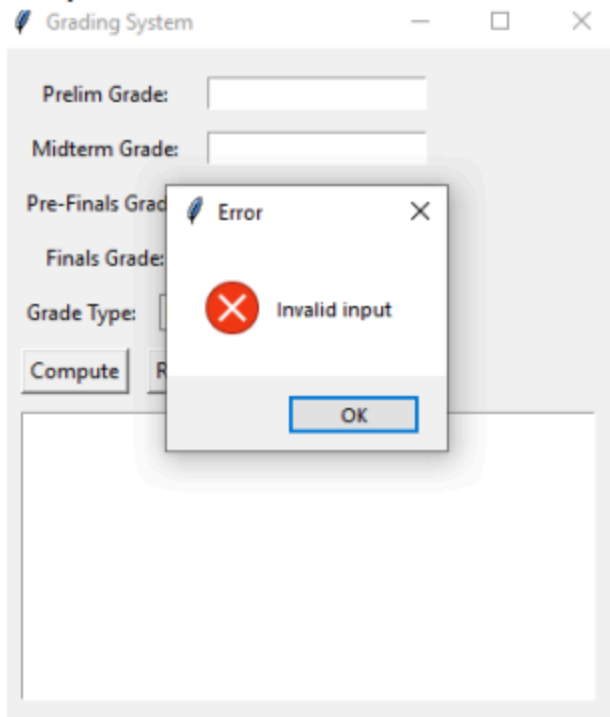
Prelim Grade: 78.00
Midterm Grade: 89.00
Pre Finals: 90.00
Finals: 90.00
GPA is: 85.67
Grade Equivalent: B-
Remarks: Passed

Reset Button:

A screenshot of a Windows application window titled "Grading System". The window has a standard Windows title bar with minimize, maximize, and close buttons. Inside the window, there are four text input fields labeled "Prelim Grade:", "Midterm Grade:", "Pre-Finals Grade:", and "Finals Grade:". Below these fields is a "Grade Type:" label followed by a dropdown menu currently set to "Numeric Grade". At the bottom of the window, there are four buttons: "Compute", "Reset", "About", and "Close". The "Reset" button is highlighted with a blue border. Below the buttons is a large empty rectangular area.

About Button:

A screenshot of the same "Grading System" window. The "About" button is highlighted with a blue border. An "About" dialog box is open in the foreground, partially obscuring the main window. The dialog box has a title bar that says "About" and a close button. It contains an information icon (a blue circle with a white 'i') and the text "Hello I am Daniel Robert T. Buccat". At the bottom of the dialog box is an "OK" button.

Compute Button:**Close Button:**